

RVSB Transmitter (initial concept)

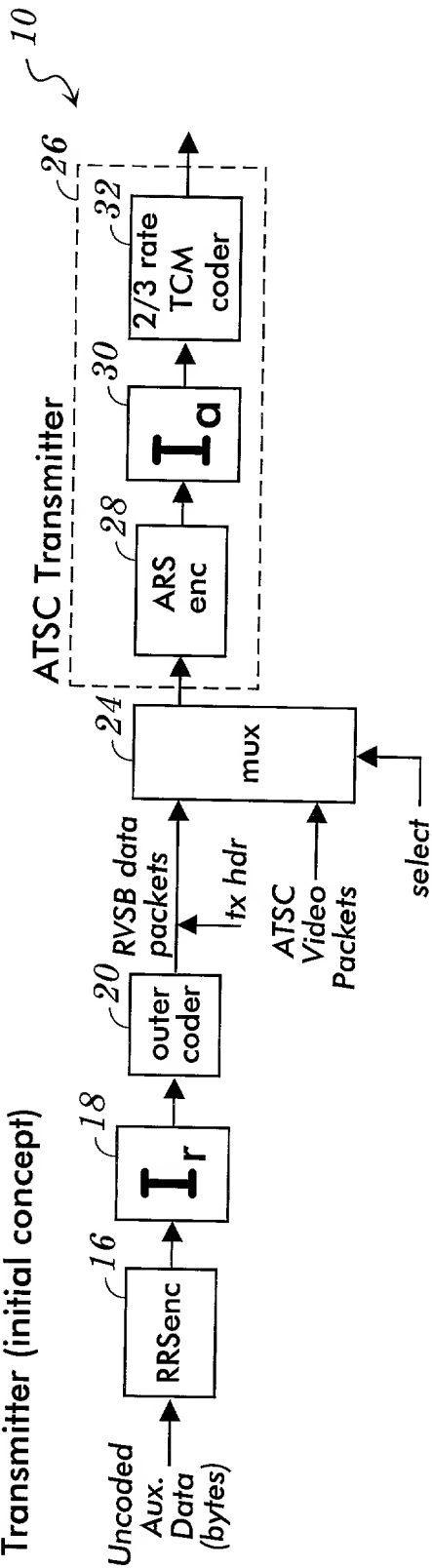


Figure 1

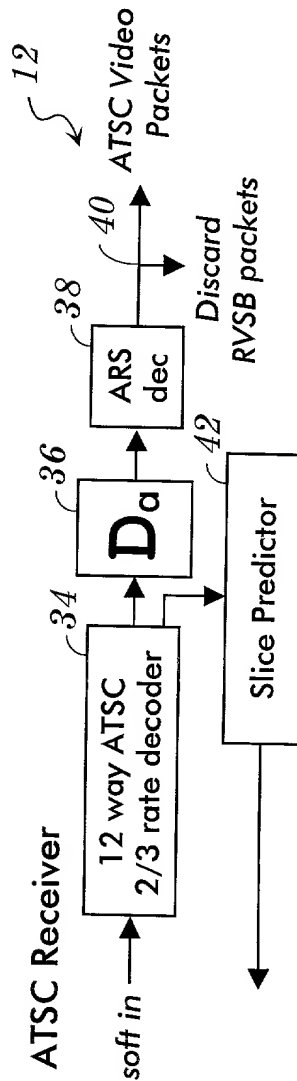


Figure 2

mapper function				level
Z2	Z1	Z0		
0	0	0	-7	
0	0	1	-5	
0	1	0	-3	
0	1	1	-1	
1	0	0	+1	
1	0	1	+3	
1	1	0	+5	
1	1	1	+7	

Figure 5

# RVSF Receiver

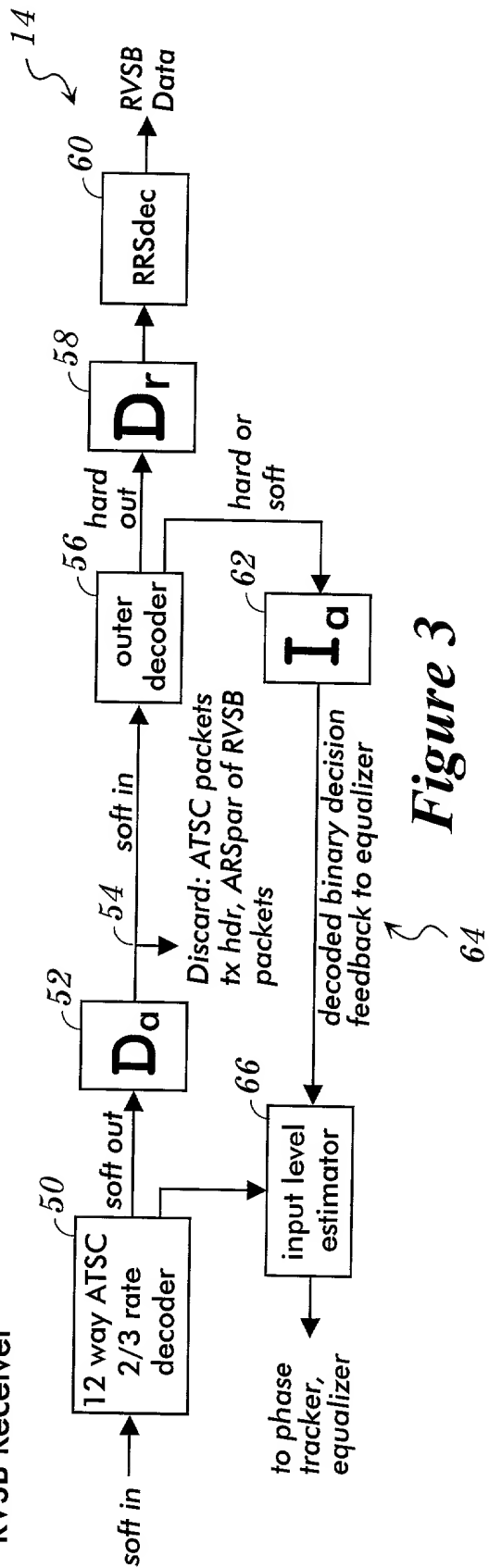


Figure 3

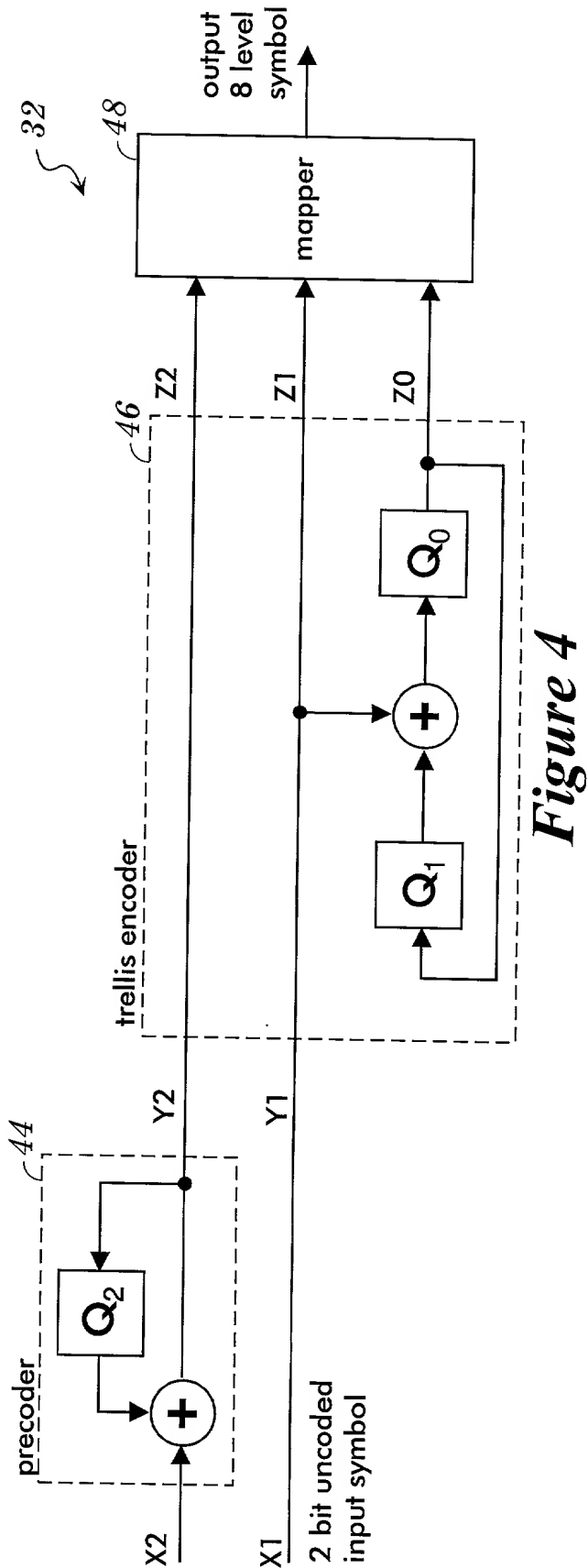
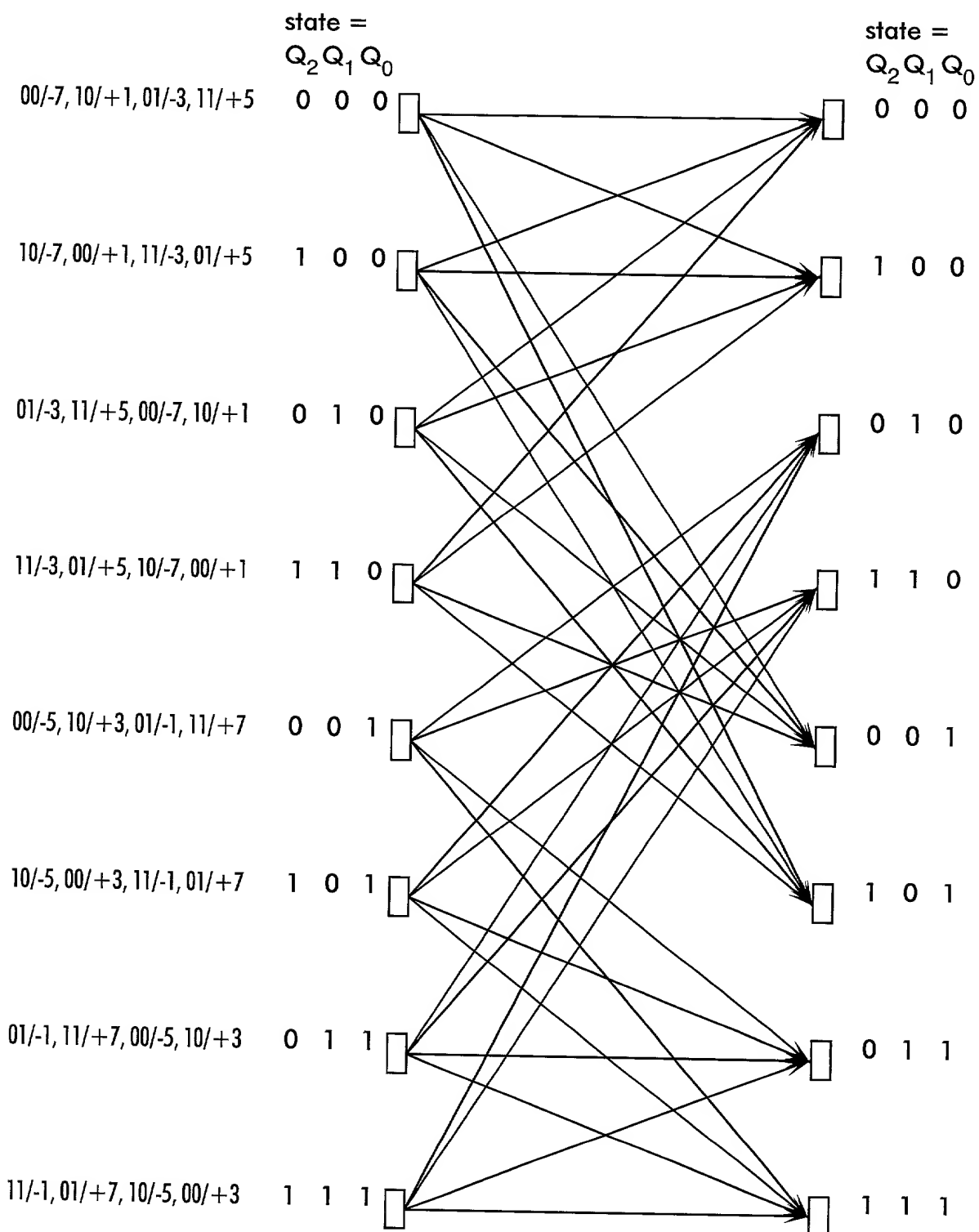


Figure 4

branch label :

$X_2X_1$  / mapped output level



**Figure 6**

# RVSb Transmitter

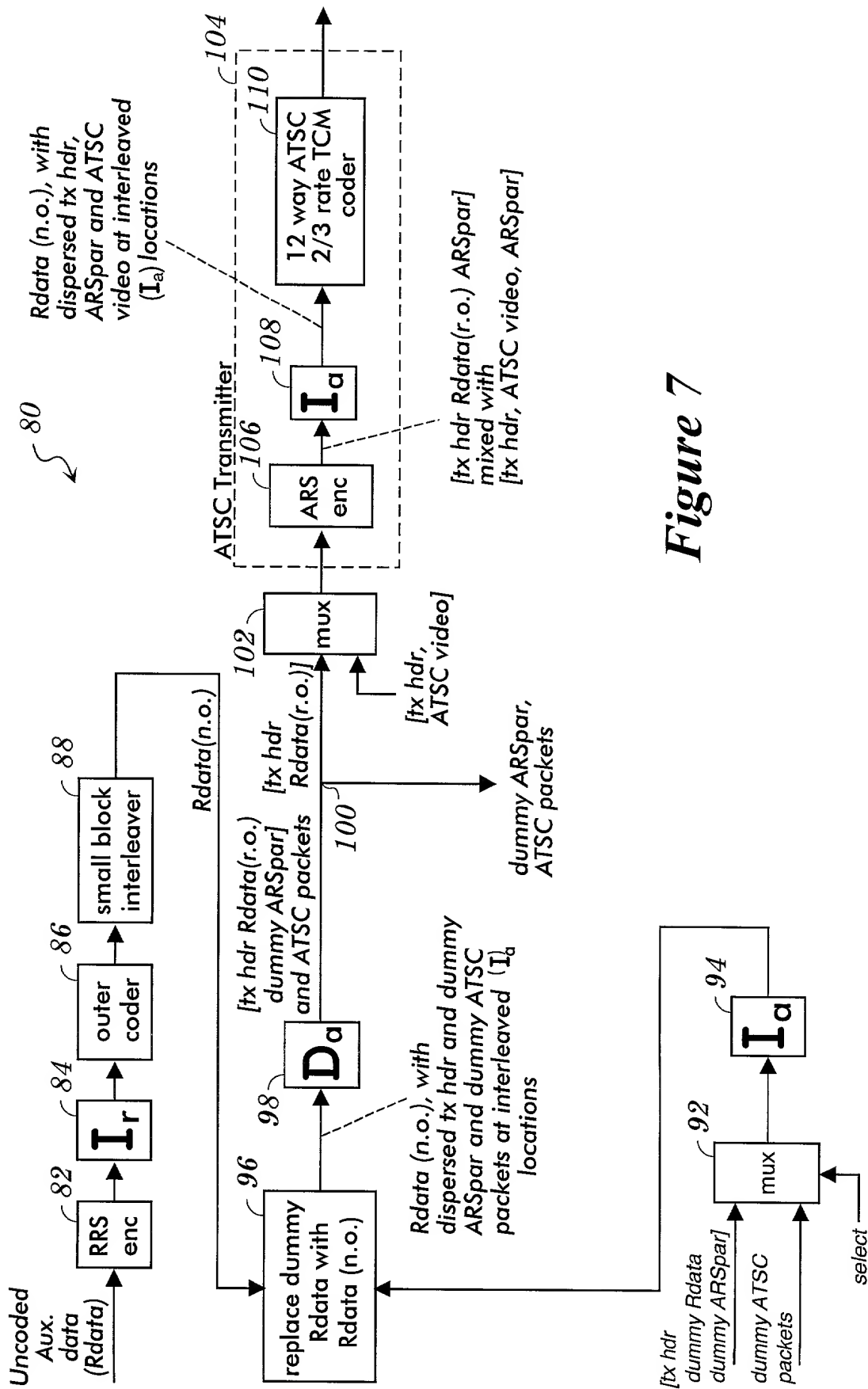
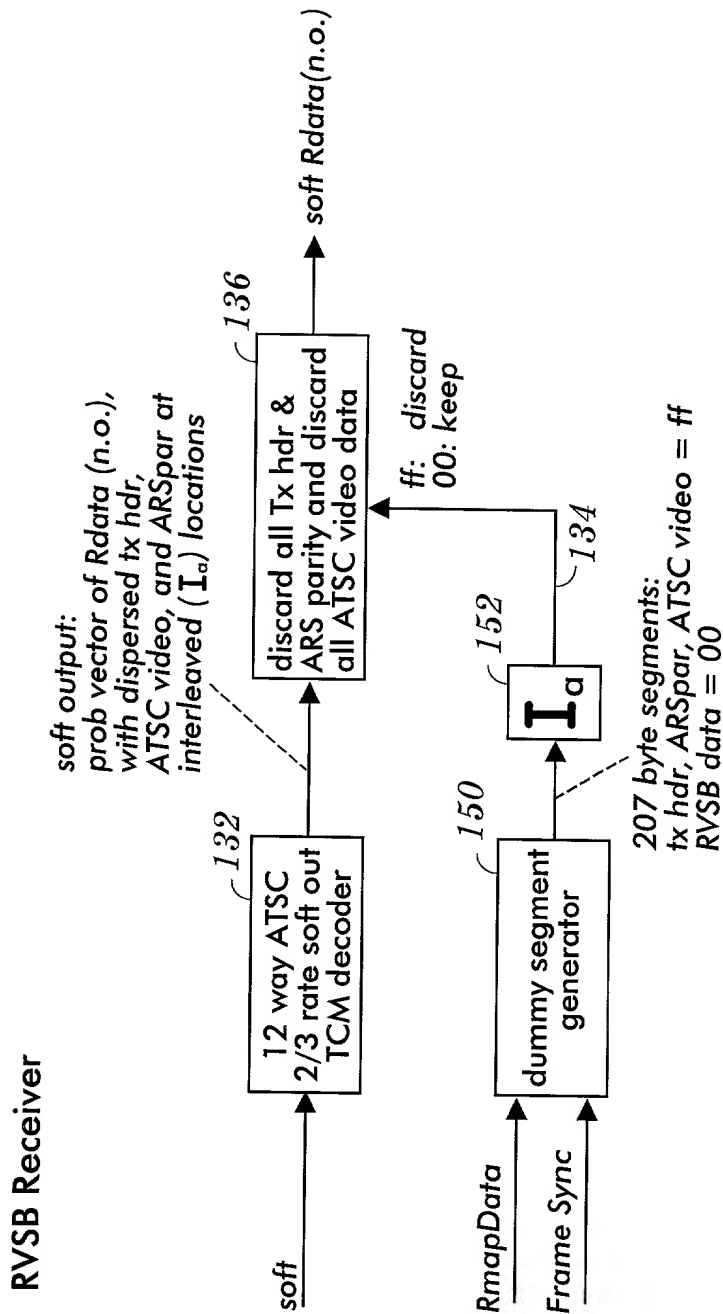


Figure 7





**Figure 10**

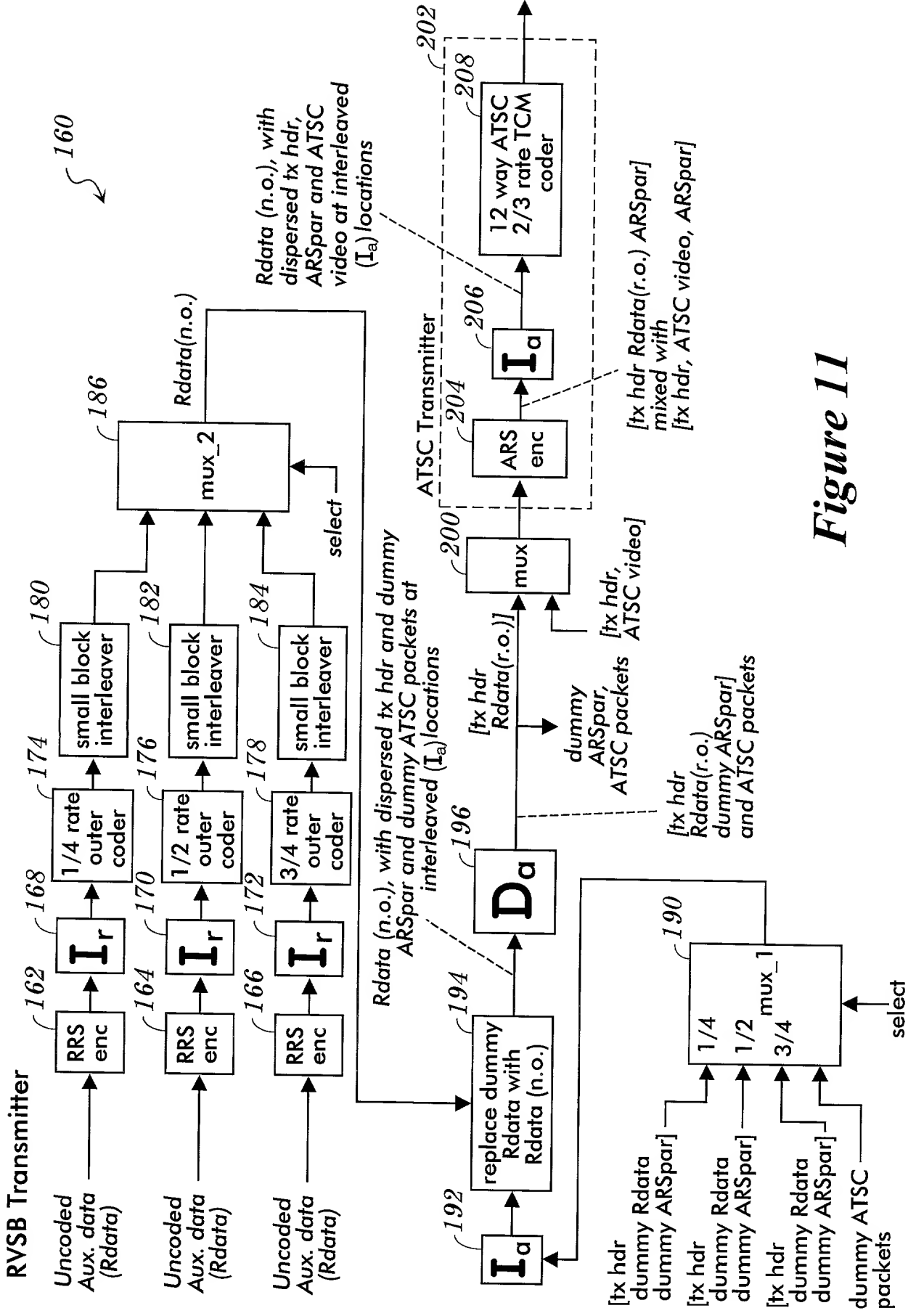


Figure 11

for 1/2 rate outer code

ATSC tx hdr (12 symbols)	RVSB data (736 symbols) 92 bytes payload		ARS parity (80 symbols)
ATSC tx hdr (12 symbols)	RVSB data (576 symbols) 72 bytes payload	RRS parity (160 symbols) 20 bytes	ARS parity (80 symbols)
ATSC tx hdr (12 symbols)	RVSB data (736 symbols) 92 bytes payload		ARS parity (80 symbols)
ATSC tx hdr (12 symbols)	RVSB data (576 symbols) 72 bytes payload	RRS parity (160 symbols) 20 bytes	ARS parity (80 symbols)
2 bits/symbol		1 bit/symbol	2 bits/symbol

**Figure 12**

for 1/4 rate outer code

ATSC tx hdr (12 symbols)	RVSB data (736 symbols) 46 bytes payload		ARS parity (80 symbols)
ATSC tx hdr (12 symbols)	RVSB data (736 symbols) 46 bytes payload		ARS parity (80 symbols)
ATSC tx hdr (12 symbols)	RVSB data (736 symbols) 46 bytes payload		ARS parity (80 symbols)
ATSC tx hdr (12 symbols)	RVSB data (416 symbols) 26 bytes payload	RRS parity (320 symbols) 20 bytes	ARS parity (80 symbols)
2 bits/symbol		0.5 bit/symbol	2 bits/symbol

**Figure 13**

for 3/4 rate outer code

ATSC tx hdr (12 symbols)	RVSB data (736 symbols) 138 bytes payload		ARS parity (80 symbols)
ATSC tx hdr (12 symbols)	RVSB data (736 symbols) 26 bytes payload	20 bytes RRS parity   92 bytes payload	ARS parity (80 symbols)
ATSC tx hdr (12 symbols)	RVSB data (736 symbols) 72 bytes payload	20 bytes RRS parity   46 bytes payload	ARS parity (80 symbols)
ATSC tx hdr (12 symbols)	RVSB data (736 symbols) 118 bytes payload	20 bytes RRS parity	ARS parity (80 symbols)
2 bits/symbol		1.5 bit/symbol	2 bits/symbol

**Figure 14**



Figure 15

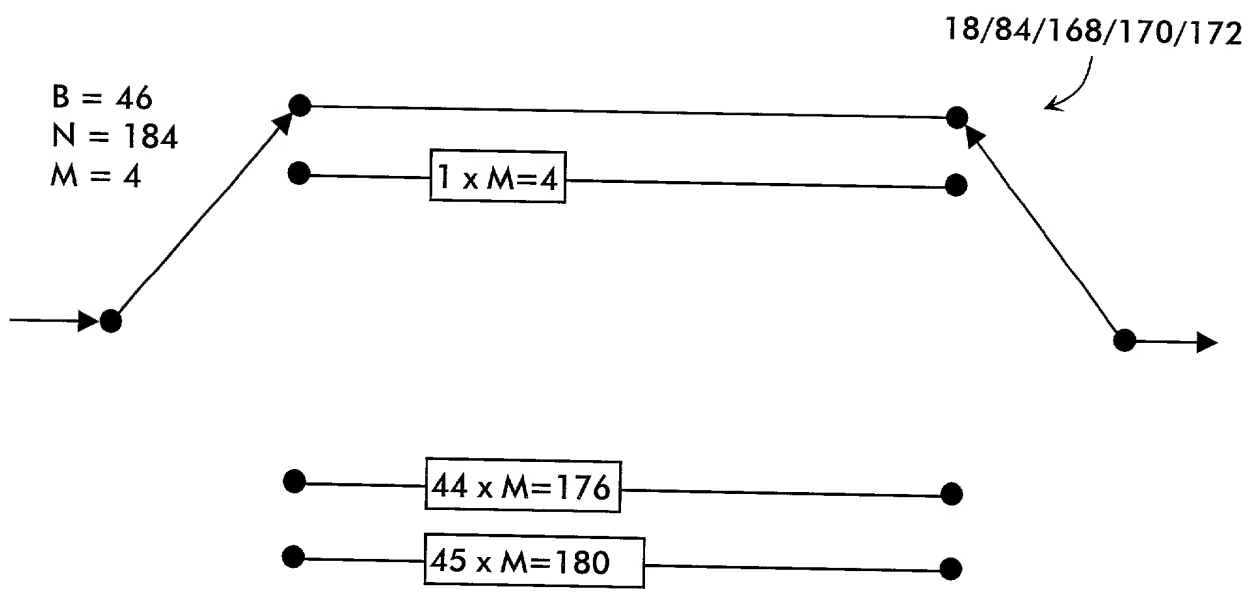


Figure 15

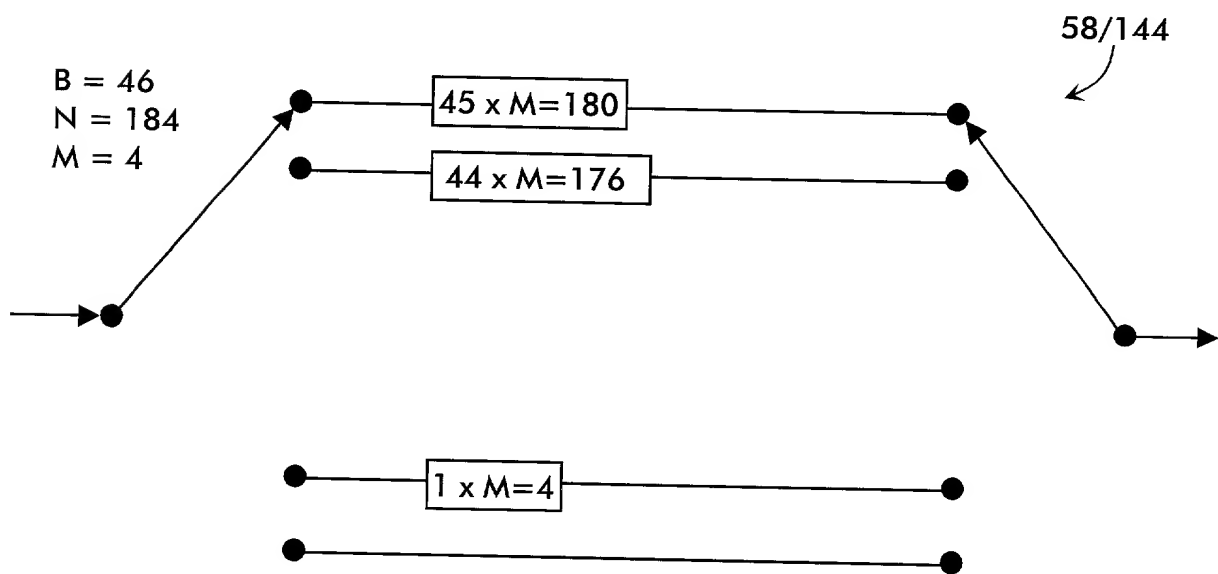


Figure 16

First RVSB RS block of field

RVSB map data (24 bits)	1288 bits
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Figure 17

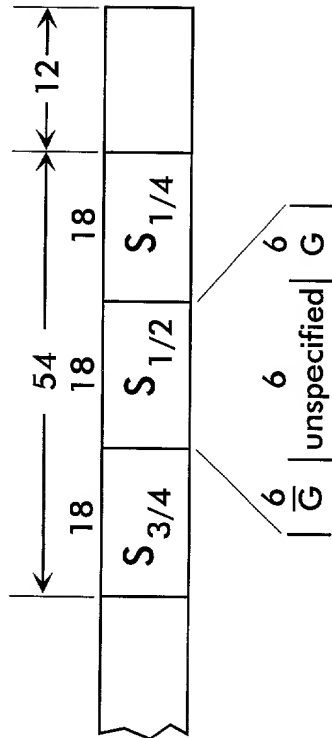


Figure 18

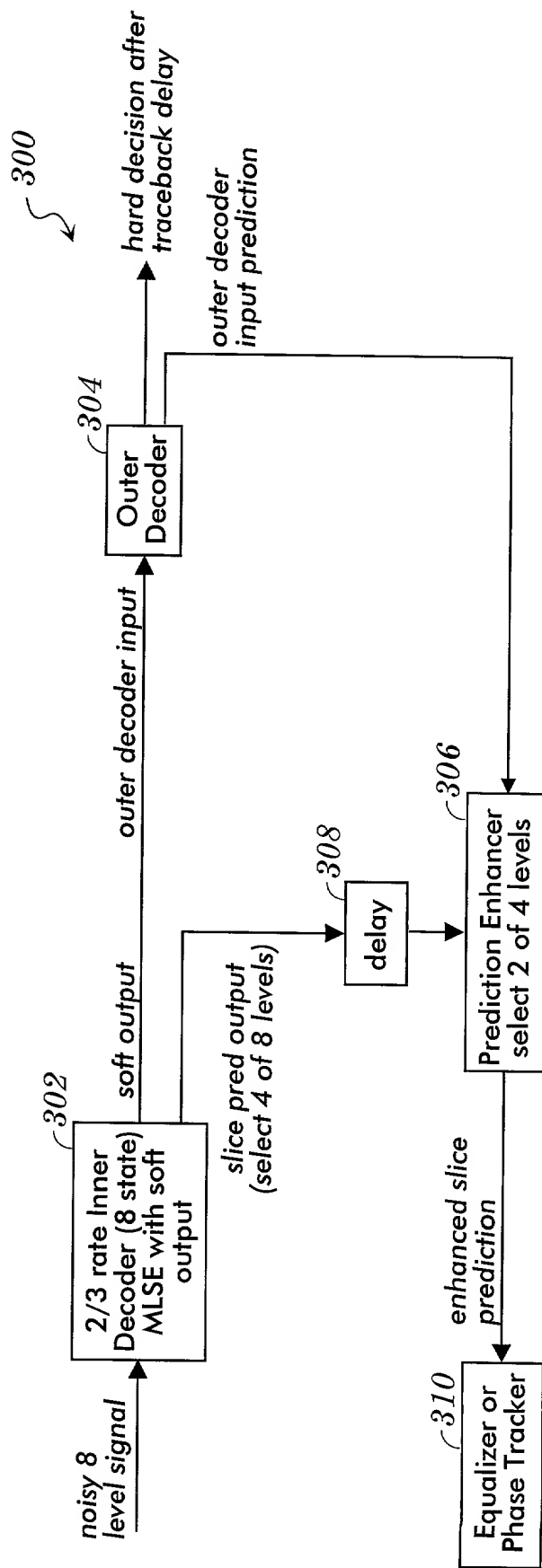


Figure 19

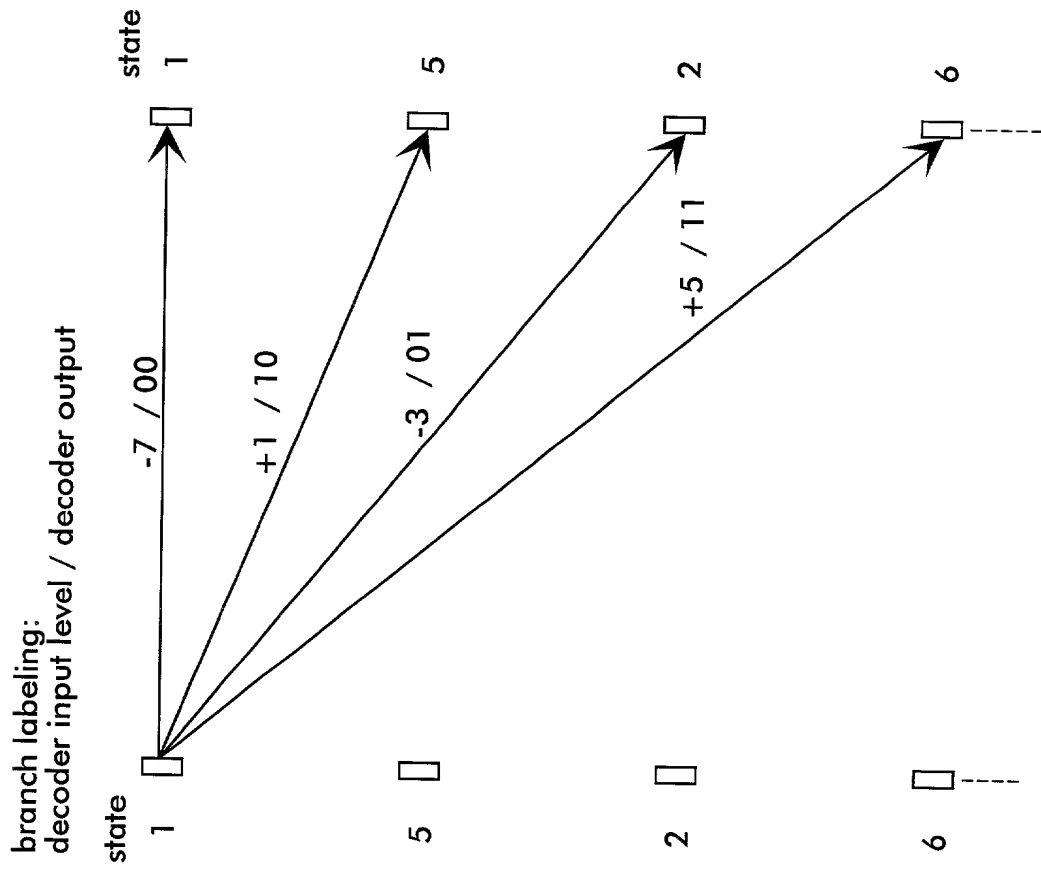


Figure 20

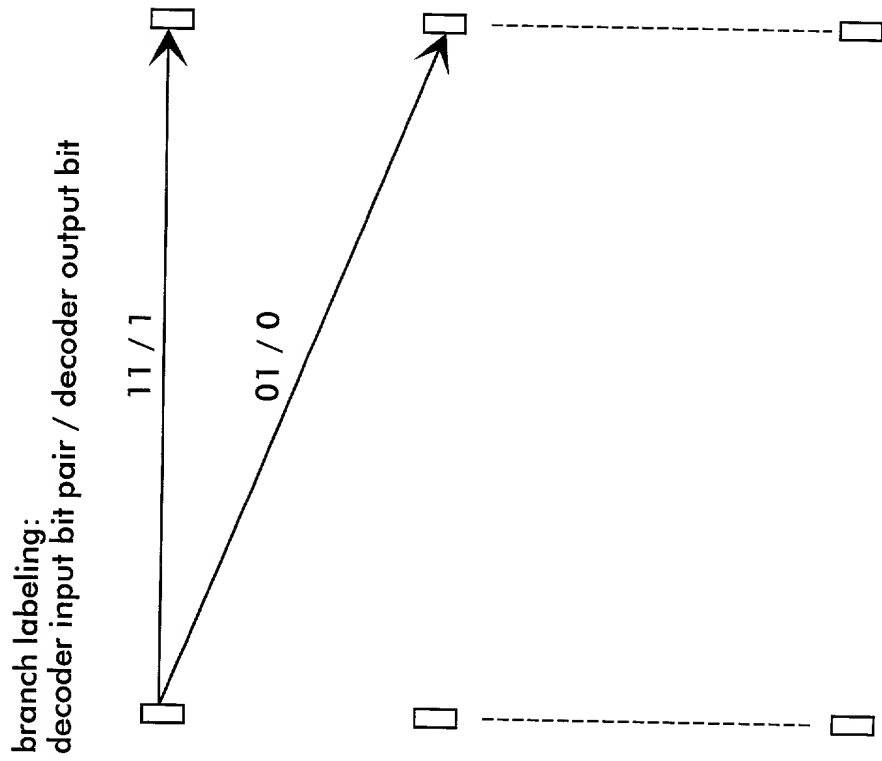


Figure 21

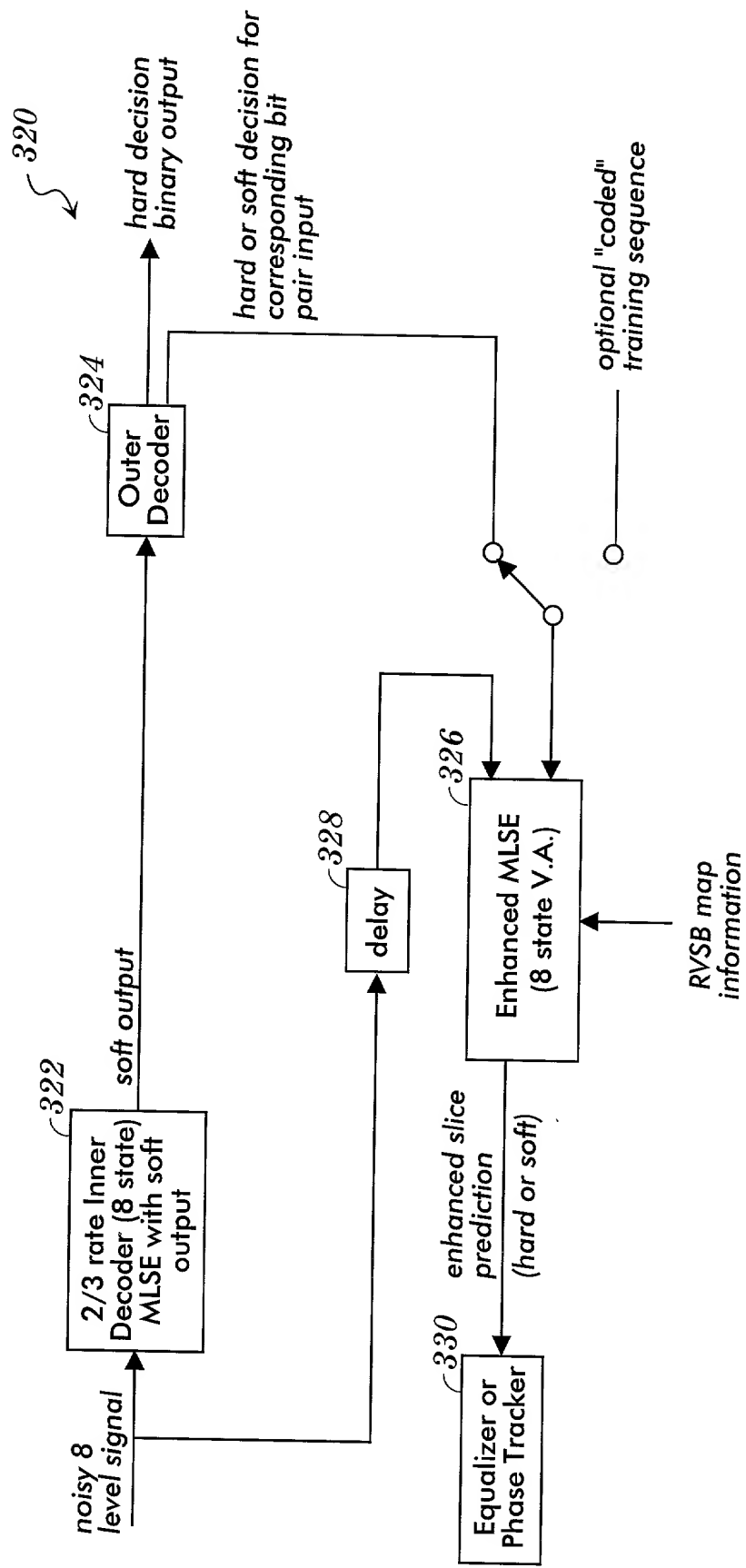


Figure 22